

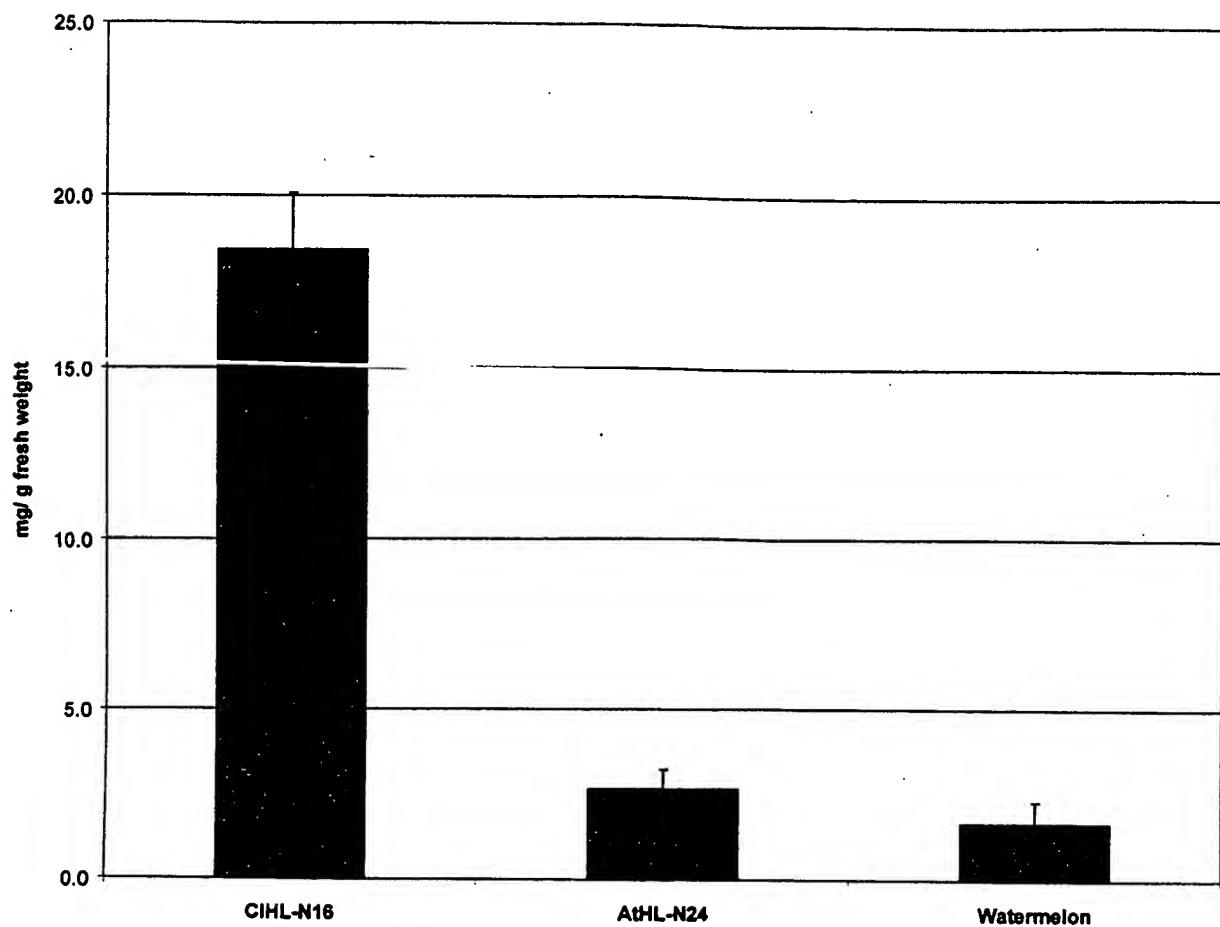
Hydroperoxide Lyase Pathway

Citrullus lanatus Hydroperoxide Lyase Peptide Sequence

1	Met	Lys	Val	Thr	Met	Thr	Ser	Gly	Gly	Met	Pro	Ser	Ile	Pro	Ser	15
16	Ser	Ile	Ser	Pro	Pro	Pro	Val	Thr	Leu	Pro	Leu	Arg	Asn	Ile	Pro	30
31	Gly	Ser	Tyr	Gly	Leu	Pro	Leu	Phe	Gly	Ser	Ile	Gly	Asp	Arg	Leu	45
46	Asp	Tyr	Phe	Trp	Phe	Gln	Gly	Pro	Glu	Lys	Phe	Phe	Arg	Ser	Arg	60
61	Met	Glu	Lys	Asn	Gln	Ser	Thr	Val	Phe	Arg	Thr	Asn	Val	Pro	Pro	75
76	Ser	Phe	Pro	Phe	Phe	Thr	Asp	Pro	Arg	Val	Ile	Ala	Val	Leu		90
91	Asp	Cys	Lys	Ser	Phe	Ala	His	Leu	Phe	Asp	Met	Clu	Ile	Val	Glu	105
106	Lys	Lys	Asn	Val	Leu	Val	Gly	Asp	Phe	Met	Pro	Ser	Thr	Ser	Phe	120
121	Thr	Gly	Asn	Met	Arg	Val	Cys	Ala	Tyr	Leu	Asp	Thr	Ser	Glu	Ser	135
136	Gln	His	Ser	Lys	Ile	Lys	Asn	Phe	Val	Met	Asp	Val	Leu	Arg	Arg	150
151	Ser	Ser	Arg	Ile	Trp	Ile	Gln	Glu	Leu	Glu	Ser	Asn	Leu	Ser	Thr	165
166	Met	Trp	Asp	Ser	Ile	Glu	Ser	Glu	Ile	Ala	Lys	Asp	Thr	Lys	Ser	180
181	Ser	Phe	Arg	Asn	His	Leu	Gln	Pro	Thr	Leu	Phe	Asn	Phe	Phe	Ser	195
196	Lys	Thr	Leu	Ala	Gly	Ala	Asp	Thr	Ala	Lys	Ser	Pro	Glu	Val	Ala	210
211	Lys	Ser	Gly	Tyr	Ile	Asp	Val	Ile	Ile	Trp	Leu	Gly	Leu	Gln	Leu	225
226	Val	Pro	Thr	Ile	His	Ile	Gly	Ile	Leu	Gln	Pro	Leu	Glu	Glu	Ile	240
241	Phe	Leu	His	Ser	Phe	Arg	Leu	Pro	Phe	Phe	Pro	Ile	Ala	Ser	Arg	255
256	Tyr	Gln	Arg	Leu	Tyr	Asp	Phe	Ile	Gln	Lys	Glu	Gly	Glu	Glu	Val	270
271	Val	Glu	Arg	Gly	Val	Ser	Glu	Phe	Gly	Leu	Thr	Lys	Asp	Glu	Ala	285
286	Ile	His	Asn	Leu	Ile	Phe	Thr	Met	Gly	Phe	Asn	Ala	Tyr	Gly	Gly	300
301	Phe	Ser	Leu	Phe	Phe	Pro	Val	Leu	Leu	Asp	Arg	Ile	Leu	Asn	Asp	315
316	Lys	Thr	Gly	Leu	Gln	Gln	Arg	Ile	Leu	Glu	Glu	Val	Lys	Ala	Lys	330
331	Thr	Gly	Ser	Gly	Leu	Thr	Phe	Glu	Ser	Val	Lys	Glu	Met	Asp	Leu	345
346	Ile	Tyr	Ser	Val	Val	Tyr	Glu	Thr	Leu	Arg	Leu	Asp	Pro	Pro	Val	360
361	Pro	Thr	Gln	Tyr	Ala	Arg	Ala	Arg	Lys	Asp	Phe	Lys	Leu	Ser	Ser	375
376	Tyr	Asp	Ser	Ala	Tyr	Ser	Ile	Lys	Lys	Gly	Glu	Leu	Leu	Cys	Gly	390
391	Tyr	Gln	Pro	Leu	Val	Met	Arg	Asp	Pro	Lys	Val	Phe	Asn	Lys	Pro	405
406	Lys	Thr	Phe	Asn	Pro	Gly	Arg	Phe	Arg	Gly	Glu	Lys	Gly	Ala	Ala	420
421	Leu	Leu	Asp	Tyr	Leu	Phe	Trp	Ser	Asn	Gly	Pro	Gln	Thr	Gly	Leu	435
436	Pro	Ser	Glu	His	Asn	Lys	Gln	Cys	Ala	Gly	Lys	Asp	Leu	Val	Val	450
451	Leu	Thr	Ala	Val	Val	Phe	Val	Ala	Tyr	Ile	Phe	Arg	Arg	Tyr	Asp	465
466	Trp	Ile	Ala	Gly	Glu	Gly	Gly	Ser	Ile	Thr	Ala	Phe	Gln	Arg	Thr	480
481	Asn															481

Citrullus lanatus Hydroperoxide Lyase Nucleotide Sequence

1	ATGAAGGTCAACCATGACCTCCGGCGGAATGCCTTCATACTTCATCGATTGCCACCG	60
61	CCGGTCACTTACCGCTCAGAAATATCCCCGGCAGCTACGGTTGCCGTGTCGGATCC	120
121	ATCGGTGACCGGCTGGATTACTTCGGTTCAAGGACCCGAGAAGTCTTCAGGTCTCGG	180
181	ATGGAGAAGAATCAAAGTACGGTTTCAGAACGAATGTCCTCCGTCGTTCCCTTCTTC	240
241	TTCACCGATCCGAGAGTGATTGCGGTTCTGGATTGCAAGTCGTTGCGCATCTATTGAC	300
301	ATGAAATCGTGGAGAAGAAGAATGTTCTGGTGGATTGATTCATGCCGAGCACAAGTTTC	360
361	ACCGGAAATATGAGAGTCTGTGCGTATTGGATACGTCGGAATCTCAACACTCGAAGATA	420
421	AAAAACTCGTCATGGACGTTCTGCGGCGGAGCTCGAGGATTGGATACAGGAGTTGGAA	480
481	TGAAACCTATCGACCATGTCGGACAGCATAGAAATCGAAATCGAAAGGACACAAAATCC	540
541	AGCTTCAGAAACCATCTCCAACCAACTCTTCATAATTCTCTCCAAAACCTGGCCGGC	600
601	GCGGACACTGAAAATCACCGGAAGTGGCTAAATCCGGTACATCGACGTATAATTGG	660
661	CTGGGGCTCCAGCTGGTCCCCACCATCCACATCGGCATTCTCCAACCCCTGGAAAGAAATA	720
721	TTCCTCCACTTTCCGATTACCCCTCTCCCCATCGCTCTCGTACCAAAGACTCTAC	780
781	GATTCATCCAAAAGAAGGGAGAAGTGGTGAGCGAGGCGTTCGGAGTTGGGTTG	840
841	AGGAAGGATGAAGCAATTCAAAATCTCATCTCACCATGGGATTCAACGCTACGGTGGT	900
901	TTCAGTCTCTCTTCCGGTTCTACTCGATGGATACTCAACGACAAAACCGGTTTACAA	960
961	CAGAGAATCTCGAGGAAGTCAAGGCAAAACCGGCTCGGTCTGACATTGAGTCGGTC	1020
1021	AAGGAGATGGATCTCATCTACTCCGCGTTACGAGACACTCCGGTTGACCCGCCGGTT	1080
1081	CCAACCCAGTACGCGAGAGCCAGAAAGGATTCAAGCTAAGTCCCTACGATTAGCGTAT	1140
1141	AGCATCAAGAAAGGGAGCTGCTTGTGGGTATCAGCCGCTGGTGTAGAGAGACCCGAAG	1200
1201	GTGTTCAATAACCGGAAGACGTTAATCCGGCCGGTCCGGGGAGAGAAGGGGGCGGCG	1260
1261	CTGCTGGATTATTGTTCTGGTCGAACGGGCCCGCAGACGGGACTACCGAGCGAGCATAAC	1320
1321	AAGCAGTGCGCCGGGAAGGATTGGTGGTGTGACGGCAGTGGTGTGCGTTACATA	1380
1381	TTTCGAAGGTATGATTGGATTGCAGGGGAAGGAGGTTGCGATTACAGCTTTCAAAGGACC	1440
1441	AACTGAAGTGAATATATATATATGTAGATTGAGAACTGCAGCTTTTTGTTCATGG	1500
1501	CTTCTTTTTATGATGAGTGTGGAGCCAAATGAAAAAAATTGGAAAAATTAAATCAATA	1561
1561	AAATTAAGATCCATTAAAAAAAAAAAAAAAGCAAAAAAAAAAAAAAA	1620
1621	AAAAAAAAAAA	1632



CIHL-N16: Watermelon HL transgenic tobacco

AtHL-N24: Arabidopsis HL transgenic tobacco

Figure 4

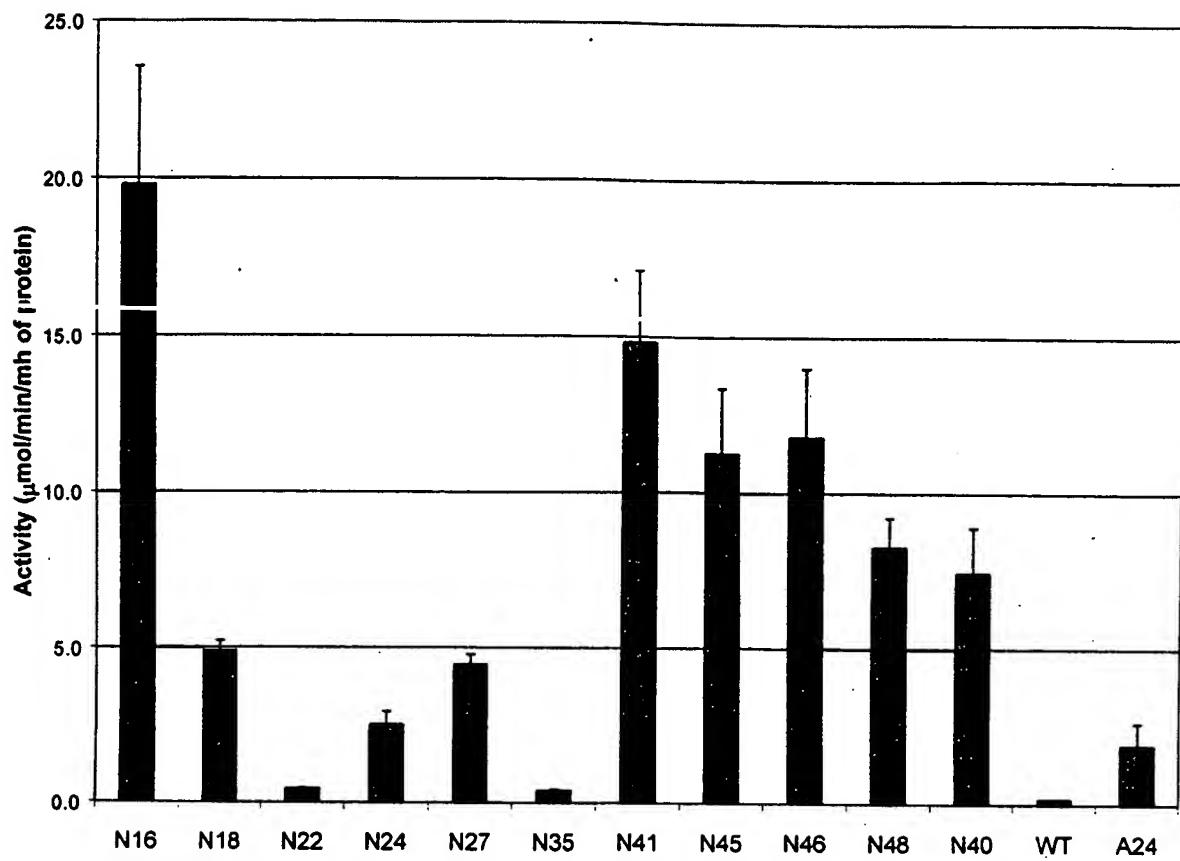


Figure 5